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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/692,838

10/23/2003

Chien-Sheng Yang

JCLA7640

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11/02/2004

J C PATENTS, INC.  
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IRVINE, CA 92618

EXAMINER

MENZ, DOUGLAS M

ART UNIT

PAPER NUMBER

2824

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/692,838

Applicant(s)

YANG, CHIEN-SHENG

Examiner

Douglas M Menz

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Search History.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. (US 6777709).

Regarding claim 1, Wu discloses a capacitor in a pixel structure, comprising:

A bottom electrode (114), deposited on a substrate (126, Figs. 2A-B);

A capacitor dielectric layer (124), covering the bottom electrode (114) and the substrate (126, Figs. 2A-B);

A top electrode (116), deposited on the capacitor dielectric layer (124) and comprising a coupling part and a protruding part, wherein the coupling part corresponds to the bottom electrode (114) for forming a coupling region between the bottom electrode and the coupling part, and the protruding part exceeds the coupling region (Figs. 2A-B and Col. 1, line 55 – Col. 2, line15);

A passivation layer (122), covering the top electrode (116), wherein an opening (120) formed in the passivation layer exposes the protruding part of the top electrode (Figs. 2A-B and Col. 1, line 55 – Col. 2, line15); and

A pixel electrode (118) , covering the passivation layer (122) and electrically connecting with the top electrode (116) through the opening (120, Figs. 2A-B and Col. 1, line 55 – Col. 2, line15).

Regarding claim 2, Wu further discloses wherein the bottom electrode (114) is made of a metal material (Figs. 2A-B and Col. 2, lines: 1-15).

Regarding claim 3, Wu further discloses wherein the top electrode (116) is made of a metal material (Figs. 2A-B and Col. 2, lines: 1-15).

Regarding claim 7, Wu discloses a capacitor structure corresponding to a pixel, comprising:

A bottom electrode (114), deposited on a substrate (126, Figs. 2A-B);

A dielectric layer (124), deposited on the bottom electrode (114, Figs. 2A-B);

A top electrode (116), corresponding to the bottom electrode (114) and deposited on the dielectric layer (124), wherein the top electrode comprises a coupling part and a protruding part, the coupling part corresponds to the bottom electrode for forming a capacitor region, and the protruding part exceeds the capacitor region (Figs. 2A-B and Col. 1, line 55 - Col. 2, line 15);

A passivation layer (122), covering the top electrode (116), wherein an opening (120) formed in the passivation layer exposes the protruding part of the top electrode (Figs. 2A-B and Col. 1, line 55 - Col. 2, line 15);

A pixel electrode (118, Fig. 2B and 200, Fig. 3B), covering the passivation layer and electrically connecting with the top electrode through the opening, wherein an incision opening formed in the pixel electrode on the opening and the coupling part exposes the passivation layer (Col. 2, line 40 – Col. 3, line 20 and Col. 4).

Regarding claim 8, Wu further discloses wherein the bottom electrode (114) is made of a metal material (Figs. 2A-B and Col. 2, lines: 1-15).

Regarding claim 9, Wu further discloses wherein the top electrode (116) is made of a metal material (Figs. 2A-B and Col. 2, lines: 1-15).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 6777709) in view of Choo et al. (US 6797961).

Regarding claims 4 and 10, Wu discloses the structure of claims 1 and 7 as mentioned above, however, Wu does not explicitly disclose wherein the pixel electrode is made of an indium tin oxide material. Choo discloses a capacitor in a pixel structure wherein the pixel electrode is made of an indium tin oxide material (Figs. 6A-I and Col. 6, line 50 – Col. 7, line 28). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate an indium tin oxide (ITO) material for the pixel electrode of Wu's structure as this material was well known in the art at the time of the invention. The Choo reference is just one of many such examples which explicitly discloses this feature.

Regarding claims 5,6 and 11, Wu discloses the structure of claims 1 and 7 as mentioned above, however, Wu does not explicitly disclose wherein the dielectric layer is made of a  $\text{Si}_3\text{N}_4$  material. Choo discloses a capacitor in a pixel structure wherein the dielectric layer is made of a  $\text{Si}_3\text{N}_4$  material (Figs. 6A-I and Col. 6, line 50 – Col. 7, line 28). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a silicon nitride material for the dielectric of Wu's structure as this material was well known in the art at the time of the invention. The Choo reference is just one of many such examples which explicitly discloses this feature.

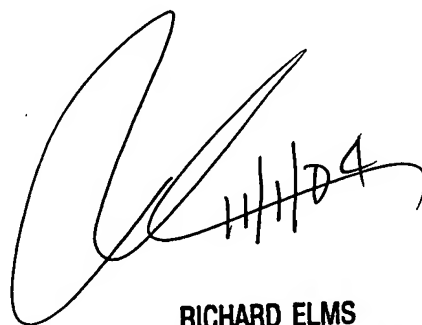
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas M Menz whose telephone number is 571-272-1877. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DM

A handwritten signature in black ink, appearing to read 'R. Elms', with a date '11/1/04' written below it.

**RICHARD ELMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800**